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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/695,269	10/28/2003	Janne Kesala	SEPP14.001C1	4712
20995 7590 03/15/2007 KNOBBE MARTENS OLSON & BEAR LLP 2040 MAIN STREET FOURTEENTH FLOOR IRVINE, CA 92614			EXAMINER BUEKER, RICHARD R	
			ART UNIT	PAPER NUMBER
			1763	
SHORTENED STATUTORY PERIOD OF RESPONSE		NOTIFICATION DATE	DELIVERY MODE	
3 MONTHS		03/15/2007	ELECTRONIC	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Notice of this Office communication was sent electronically on the above-indicated "Notification Date" and has a shortened statutory period for reply of 3 MONTHS from 03/15/2007.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.		Applicant(s)	
	10/695,269		KESALA, JANNE	
	Examiner		Art Unit	
	Richard Bueker		1763	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 January 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 37-45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 37-45 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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Claims 37-45 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 37, line 7, the phrase "the gas container wall" does not have clear antecedent basis, and should be changed to "the gas tight container wall", if that is what was intended to be referenced, or "the container wall of the second container". Also, in claim 39, the phrase "selected from the group of stainless steel, titanium and aluminum" is an improper Markuch group, and should be changed to "selected from the group consisting of stainless steel, titanium and aluminum".

The prior art rejections of the previous office action have been removed in favor of the newly discovered reference to Ogasawara (JP 08-158053).

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 37 and 42-45 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Ogasawara (JP 08-158053). Ogasawara (see Figs. 1 and 3) discloses a reactant source assembly for generating a

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gas phase reactant flow comprising a first container 21 having an opening and containing solid reactant matter 25, a lid 22 configured to cover the opening, a second container 8a or 8b having a gas tight container wall enclosing the first container, a gas feed inlet and a gas withdrawal outlet in the container wall of the second container, wherein the opening of the first container opens into the gas space enclosed by the second container. The cover 22 is a mechanical filter as recited in claim 42, for removing unvaporized particles from the reactant vapor produced in the container 21, and the lid 22 comprises a ceramic sinter as recited in claim 45. The outlet of the second container wall is connected to the reaction chamber housing the substrate 4 as recited in claim 43.

Claims 38, 40 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ogasawara (JP 08-158053) alone or taken in view of Tomosawa (JP 06-232048). Regarding claim 38, Ogasawara teaches (see paragraph 11) that the argon carrier gas flux controls the flow rate of reactant vapor to the reaction chamber, and in view of that teaching it would have been obvious to provide a flow control valve on the carrier gas supply line to control the flow rate of carrier gas into the container 8a or 8b. Alternatively, Tomosawa (see Fig. 2) teaches the use of an MFC 1 to control the flow rate of a carrier gas into a vaporizer, and in view of Tomosawa, it would have been obvious to provide the carrier gas inlet of Ogasawara with an MFC valve. It is noted that a valve on the carrier gas inlet line controls gas flow through the inlet, and the same valve also controls gas flow through the outlet, as taught by Ogasawara in paragraph 11 as noted above. According to claim 38 as written, the "at least one valve for controlling

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gas flow through the at least one inlet" can be the same valve as the "at least one valve for controlling gas flow through the at least one outlet". Regarding claims 40 and 41, Ogasawara teaches that the first container is a heat resistant boat. In view of this teaching, it would have been prima facie obvious to one skilled in the art to use any conventionally known heat resistant material as the material of construction for Ogasawara's boat, including quartz (i.e. silica, which is a glass and a ceramic), which is a well known heat resistant material for use in vapor deposition apparatus. It is noted that Ogasawara also teaches (see paragraph 8) that silica is a material that is compatible with his reactant vapors. In view of that teaching one skilled in the art would have been expected that quartz could successfully be used as the material of Ogasawara's boat. Also, Tomosawa teaches that quartz can successfully be used as a material of construction for a vaporizer boat. In view of that teaching it would have been further obvious that quartz can successfully be used as the material of Ogasawara's boat.

Claim 39 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ogasawara (JP 08-158053) taken in view of Schultz (3,801,294). Ogasawara's vaporizer is for vaporizing $ZrCl_4$ (see paragraphs 7-12, for example). Shultz (see the Fig.) also discloses a vaporizer for $ZrCl_4$ and Shultz teaches that the $ZrCl_4$ vaporizer can be constructed from stainless steel. It would have been prima facie obvious to construct the second container of Ogasawara's vaporizer of stainless steel as an alternative material of construction because Shultz teaches that stainless steel is a material that

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was known in the art to be compatible with ZrCl_4 vapor, and that stainless steel could successfully be used to construct a ZrCl_4 vaporizer.

Claims 37-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tasaki (6,149,975) taken in view of Ogasawara (JP 08-158053) and Schultz (3,801,294). Tasaki (Fig. 1) discloses a vaporizer comprising a boat containing powdered material to be vaporized, wherein the boat is a first container enclosed in a second container having a gas inlet and an outlet for withdrawing vaporized reactant. Tasaki doesn't discuss the use of a cover on the boat to keep the source material powder in the boat. Ogasawara, however, teaches that such a cover prevents the source material powder from undesirably exiting the boat. It would have been obvious to one skilled in the art to provide a cover for Tasaki's boat to prevent the source material powder from undesirably exiting the boat, particularly when using the vaporizer of Tasaki to produce ZrCl_4 vapor, as taught by Ogasawara and Schultz. Regarding claims 40 and 41, Ogasawara teaches that the first container is a heat resistant boat. In view of this teaching, it would have been prima facie obvious to one skilled in the art to use any conventionally known heat resistant material as the material of construction for Ogasawara's boat, including quartz (i.e. silica, which is a glass and a ceramic), which is a well known heat resistant material for use in vapor deposition apparatus.

Claims 40 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tasaki (6,149,975) taken in view of Ogasawara (JP 08-158053) and Schultz (3,801,294) for the reasons stated above, and taken in further view of Tomosawa JP 06-232048). Tomosawa teaches that quartz can successfully be used as a material of

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construction for a vaporizer boat. In view of that teaching it would have been further obvious that quartz can successfully be used as the material of Tasaki's boat.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Bueker whose telephone number is (571) 272-1431. The examiner can normally be reached on 9 AM - 5:30 PM, Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on (571) 272-1435. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Richard Bueker
Primary Examiner
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